

## REMARKS

### **I. INTRODUCTION**

Claims 10 to 22 are pending. Claims 20 and 22 have been amended. No new matter has been added by the amendments and support for the amendments may be found throughout the specification and figures. Entry of these amendments is respectfully requested since they raise no new issues, put the claims in condition for allowance, and/or place the claims in better form for appeal.

Claims 10 to 15 and 19 to 22 have been rejected under 35 U.S.C. § 103(a) as being obvious over the allegedly admitted prior art of the specification in view of U.S. Patent No. 5,144,667 to Pogue, Jr. et al. (the Pogue reference). Claims 16 to 18 have been rejected under 35 U.S.C. § 103(a) as being obvious over the allegedly admitted prior art of the specification and the Pogue reference in view of U.S. Patent No. 6,282,180 B1 to Paneth et al. (the Paneth reference). Applicant hereby requests reconsideration of the application in view of the following remarks.

### **II. THE 35 U.S.C. § 103(a) REJECTION BASED ON THE SPECIFICATION IN VIEW OF THE POGUE REFERENCE SHOULD BE WITHDRAWN**

The Office Action rejects claims 10 to 15 and 19 to 22 under 35 U.S.C. § 103(a) as being obvious over the allegedly admitted prior art of the specification in view of the Pogue reference.

Applicant respectfully disagrees that German Priority Patent Application 196 45 769.6 ("German Patent Application '769"), discussed in the specification, is prior art. The German Patent Application '769, filed on November 7, 1996, is the priority document for German Patent Application 197 43 101, which was published on May 14, 1998. Therefore, the subject matter of the German Patent Application '769 was *published after* September 29, 1997, the priority date of the present application, and less than one year before the effective U.S. filing date of the present application, September 22, 1998. Accordingly, the German Patent Application '769 is not a prior art, and it is not described as prior art in the specification, and therefore the discussion of the subject matter of the German Patent Application '769 should not be taken as an admission that it is prior art. Therefore, it is respectfully requested that the obviousness rejection based on the allegedly admitted prior art and the Pogue reference be withdrawn.

Independent of the above, for a claim to be rejected for obviousness under 35 U.S.C. § 103(a), the prior art must teach or suggest each element of the claim, and it must also suggest combining the elements in the manner contemplated by the claim. See Northern Telecom, Inc. v.

Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296; In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990).

Independent claim 10 recites a method for assigning a remote control operation to a base station including the following steps:

causing the base station to *transmit a search signal; returning a contact signal* from the remote control operation in response to an agreement of the search signal with a stored reference signal; causing the base station to subsequently *transmit an activation signal capable of being changed* in response to each assignment, the activation signal being capable of verifying a matching to the remote control operation; and *before the search signal is transmitted from the base station, determining the activation signal*, wherein the activation signal is only recalled for the assignment.

(Emphasis added). The Office Action concedes that the allegedly admitted prior art discussed in the specification does not include the element of “before the search signal is transmitted from the base station, determining the activation signal, wherein the activation signal is only recalled for the assignment.” The Office Action asserts that the Pogue reference teaches “that the search signal is transmitted from the base station, determining the activation signal, wherein the activation signal is only recalled for the assignment.” (Office Action, paragraph 2). However, this characterization of the Pogue reference in the Office Action fails to even allege that the activation signal is determined *before* transmitting the search signal. There is no teaching in the Pogue reference with respect to determining the activation signal *before* transmitting the search signal.

The Examiner asserts that the Pogue reference “teaches that in some applications the units are activated only when the operator touches or tries to operate the door handle 18.” (Office Action at page 7). However, the cited section refers to *initiating* the activation and verification procedure, as is apparent in the alternative “activation” referred to in the passage preceding which is qualified by “provided that the identification of the remote unit can be *verified*.” (Col. 2, lines 52 to 53; emphasis added). This qualification of the term “activation” makes clear that the “activation” referred to in Pogue is merely the beginning of the process and not analogous to the “activation” recited in claim 10, in which the “activation signal [is] capable of verifying.” The cited section of the Pogue reference refers to Figure 1, which simply shows a vehicle and the communication radius between the remote unit and the base unit. (Col. 2, lines 40 to 55). Additionally, Figure 2 of the Pogue reference cited by the Examiner cannot be considered to teach or suggest determining an activation signal before transmitting a search signal, as recited in claim 10. Furthermore, an operator touching the door handle is contemplated in the present application, but as the trigger which *initiates* the assignment procedure illustrated in Figure 2, not as an “activation” as used in the Pogue reference. (Specification at page 4, lines 31 to 33).

The Examiner further asserts that the alert signal of the Pogue reference teaches an activation signal according to the present invention. (Office Action at page 7, citing the Pogue reference, col. 3, lines 12 to 16). However, the alert signal of the Pogue reference cannot be understood to be analogous to the activation signal of the present invention since there is no indication that the alert signal of the Pogue reference is *changed* at any time during an assignment procedure. According to claim 10, the activation signal is *capable of being changed* in response to each assignment. Therefore the alert signal of the Pogue reference does not teach or suggest the activation signal of the present invention.

Furthermore, no other signals discussed in the Pogue reference teach or suggest a *changeable* activating signal, as recited in claim 10, which is determined by the base station *before* the transmission of a search signal, and is *only recalled* for the assignment. The Pogue reference states that, “[w]hen a reply is received, a random number R is generated and sent to the remote unit along with the Q which corresponds to the ID which was matched in the remote unit.” (Col. 5, lines 17 to 20; emphasis added). The Pogue reference indicates that the ID and the Q are *fixed* by indicating that the ID may be chosen at the time of manufacture and that the Q corresponds to the ID. (Col. 5, lines 46 to 48). Additionally, key P in the Pogue reference is a function of Q and a “built in” secret key S. (Col. 4, lines 34 to 35). Therefore, the Pogue reference teaches or suggests that all of key P, ID, and Q are fixed, i.e., not changeable. The only changeable quantity *determined* in the Pogue reference in the authentication method is random number R. (Col. 5, line 18). Random number R of the Pogue reference is therefore the *only* element which may be considered even remotely analogous to the activation signal of the present invention, given that the activation signal is *capable of being changed*, as recited in claim 10. However, the Pogue reference explicitly states that the random number is generated *when* a reply is received. (Col. 5, lines 17 to 20). The Pogue reference therefore *teaches away* from the method according to the present invention by explicitly teaching generating a random number *after* a reply is received from the remote. This contravenes claim 10, which recites that the changeable activating signal is stored *before* the transmission of the search signal of the base station.

The method according to the present invention achieves, on the one hand, an acceleration of the current verification procedure, since the computed, changeable activating signal is *not* computed in the *current* authorization procedure, but instead computed in the preceding authorization procedure, and is recalled for the current authorization procedure. Additionally, security is enhanced, since a *changeable* activating signal is involved, which is different for each verification process. The combination of the allegedly admitted prior art discussed in the specification and the Pogue reference cannot render obvious the subject matter of the present

invention since neither reference teaches or suggests that an activation signal is determined *before* a search signal is transmitted, as recited in claim 10.

Dependent claim 11, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10. Additionally, claim 11 includes the feature that “before the search signal is transmitted by the base station, determining a response signal, wherein the remote control operation responds in accordance with the response signal after the activation signal is received,” which the Office Action admits is not taught or suggested in the allegedly admitted prior art. The Office Action asserts that this feature is taught in the Pogue reference, but the cited sections of Pogue give no suggestion of *determining a response signal before transmitting the search signal*. Since neither reference includes this feature, the combination of the references cannot render obvious the subject matter of claim 11.

Dependent claim 12, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10. Additionally, claim 12 includes the feature that “the activation signal is determined after a conclusion of a successful assignment of the remote control operation to the base station,” which the Office Action admits is not taught or suggested in the allegedly admitted prior art. The Office Action asserts that this feature is taught in the Pogue reference, but the cited sections of Pogue give no suggestion of *determining the activation signal after a conclusion of a successful assignment of the remote control operation*. Since neither reference includes this feature, the combination of the references cannot render obvious the subject matter of claim 12.

Dependent claim 13, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10. Additionally, claim 13 includes the feature of “determining another activation signal capable of being changed, the other activation signal being determined if a response signal sent back by the remote control operation in response to *the activation signal does not agree with a predetermined setpoint response signal in the base station*. The Office Action asserts that this feature is taught in the allegedly admitted prior art of the specification. However, as noted above, the German Patent Application discussed in the specification is not prior art. Additionally, the description in the specification contains no suggestion of a predetermined setpoint response signal. Since none of the applied references includes this feature, the combination of the references cannot render obvious the subject matter of claim 13.

Dependent claim 14, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10.

Dependent claim 15, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10. Additionally, claim 15 includes the feature that “an execution time of the step of determining the other activation signal is lengthened in comparison to a shortest possible execution time,” which the Office Action asserts is taught in the allegedly admitted prior art. Again, the German Patent Application discussed in the specification is not prior art. Furthermore, the specification only refers to the time response signals required in the allegedly admitted prior art and the use of specially designed integrated circuits for performing calculations in less than 3 milliseconds. The specification gives no suggestion of an *activation signal which is lengthened in comparison to a shortest possible execution time*. Since none of the applied references includes this feature, the combination of the references cannot render obvious the subject matter of claim 15.

Dependent claim 19, which depends from claim 13, is allowable for at least the same reasons presented above in support of the patentability of claim 13. Additionally, claim 19 includes the feature that “an encryption keycode and a random number generated by the microprocessor function to produce the predetermined setpoint response signal.” As noted above with respect to claim 13, none of the references include a predetermined setpoint response signal, and therefore the combination of the references cannot render obvious a predetermined setpoint response signal *produced by an encryption keycode and a random number*. Since neither reference includes this feature, the combination of the references cannot render obvious the subject matter of claim 19.

Dependent claim 20, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10.

Dependent claim 21, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10.

Dependent claim 22, which depends from claim 10, is allowable for at least the same reasons presented above in support of the patentability of claim 10.

It is therefore respectfully requested that the § 103(a) rejection of claims 10 to 15 and 19 to 22 based on the allegedly admitted prior art in the specification and the Pogue reference be withdrawn.

**III. THE 35 U.S.C. § 103(a) REJECTION BASED ON THE SPECIFICATION AND THE POGUE REFERENCE IN VIEW OF THE PANETH REFERENCE SHOULD BE WITHDRAWN**

The Office Action rejects claims 16 to 18 under 35 U.S.C. § 103(a) as being obvious over

the allegedly admitted prior art in the specification and the Pogue reference in view of the Paneth reference. For the reasons discussed above in section II, Applicant respectfully disagrees that the German Patent Application discussed in the specification is prior art.

Additionally, independent claim 16 recites a base station including:

*a transmitting/receiving device for transmitting a search signal and an activation signal capable of being changed*, and for receiving a contact signal and a response signal from remote control operations;

an arrangement for performing one of a causing and an evaluating of each signal received by the transmitting/receiving device, wherein *the arrangement for performing one of the causing and the evaluating determines the activation signal before a transmission of the search signal from the base station occurs*, and the arrangement for performing one of the causing and the evaluating only recalls the activation signal for an assignment

....

(Emphasis added). Claim 16 therefore includes limitations similar to that of claim 10 discussed in Section II above, namely that the activation signal is *capable of being changed*, and that the *activation signal is determined before the search signal is transmitted* from the base station. Therefore, for the same reasons recited above in support of the patentability of claim 10, claim 16 is not obvious over the allegedly admitted prior art in the specification and the Pogue reference. The Office Action cites an additional section of the Pogue reference which indicates that “[w]hen the remote unit enters the radio range of the base unit, a wake-up mode is entered wherein a signal from the base unit wakes up or alerts the remote unit to prepare its circuits for interrogation. This starts the ID mode.” (Col. 3, lines 12 to 16). Therefore, since the cited sections only refer to preparation of the circuits and starting the ID mode, the cited sections do not cure the critical deficiency noted above with respect to the other sections of the Pogue reference cited in section II above. Namely, the Pogue reference does not teach or suggest *determining a changeable activation signal before transmitting a search signal*. The Paneth reference is cited only for its teaching with respect to a non-volatile memory. The specification, the Pogue reference, and the Paneth reference fail to teach or suggest determining a changeable activation signal *before* transmission of the search signal. Therefore, combining the Paneth reference with the allegedly admitted prior art in the specification and the Pogue reference does not cure the critical deficiencies noted in Section II above, and the asserted combination of art fails to support an obviousness conclusion with respect to claim 16.

Claim 17 depends from independent claim 16, and is therefore allowable for at least the same reasons presented above in support of the patentability of claim 16. Claim 18 is an independent claim with a substantially similar feature to that quoted above from claim 16, and is

therefore allowable for at least the same reasons cited above in support of the patentability of claim 16. It is therefore respectfully requested that the § 103(a) rejection of claims 16 to 18 based on the allegedly admitted prior art in the specification, the Pogue reference, and the Paneth reference be withdrawn.

IV. CONCLUSION

In light of the foregoing, Applicant respectfully submits that claims 10 to 22 are in condition for allowance. Prompt reconsideration and allowance of the present application is therefore earnestly solicited.

Respectfully submitted,

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AMENDMENT VERSION WITH MARKINGS

IN THE CLAIMS:

A marked-up version of claims 20 and 22 follows:

20. (Once Amended) The method according to claim 10, wherein [a] the search signal contains a serial number stored in a memory.

22. (Once Amended) The method according to claim 10, wherein the activation signal includes a random number [stored in a memory functions as a challenge signal].